



# Department of Pesticide Regulation



Brian R. Leahy  
Director

## MEMORANDUM

Edmund G. Brown Jr.  
Governor

TO: Saturnino Yanga  
Environmental Program Manager  
Worker Health and Safety Branch

**HSM-14002**

FROM: Harvard R. Fong, CIH  
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*(original signed by H. Fong)*

DATE: January 29, 2014

SUBJECT: RESULTS FROM CONSULTATION WITH CONTRA COSTA CAC  
CONCERNING PROPOSED USE OF A WAREHOUSE FOR ENCLOSING  
FUMIGATED INTERMODALS

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On January 24<sup>th</sup>, 2014, I traveled to Contra Costa County to provide a consultation for Contra Costa's County agricultural commissioner's (CAC) staff concerning a proposed warehouse site to be used as an enclosure for fumigation of intermodal trailers. The operator of the site, Kenneth Grey was present, as well as inspectors from both the Contra Costa and Alameda CACs.

The warehouse is located in Concord, in an industrial area. It is a metal structure, with roll up doors, situated within a cluster of like-constructed buildings (Photo One). The enclosed area under consideration is approximately 80' by 40' by 20' (see red outline in Photo One).



Photo One: Overhead view of site and warehouse



Initially, the CAC's concern was that the structure was a shared facility, with other business and their employees who could be potentially exposed during the fumigation operation. The proposed fumigation procedure is to deliver, into the warehouse, an intermodal trailer, pre-loaded with commodity subject to fumigation. The trailer would be tarped, sand snaked and otherwise secured for fumigation, then methyl bromide would be introduced from outside the warehouse. However, the section of the warehouse to be used for this purpose is separated from the remaining structure by a potential shear wall, rendering it functionally isolated from the rest of the enclosed structure (Photo Two).



**Photo Two: Views of interior shear wall**

There are some penetrations within the wall, but they are minor and will only need sealing and patching. Additionally, the corner joints where the shear walls meet the adjoining perpendicular wall will need to be sealed before the facility can be used for enclosing the fumigation.

Further recommended procedures include:

- Tape the steel door that opens to the concrete pad facing the open field.
- Seal all penetrations of the steel walls, including sill plate contact, as necessary.
- Tape and seal roll-up doors during fumigation.
- Cap the sewer cleanout in the front of the structure (Photo Three)



**Photo Three: Sanitary sewer clean-out access, required cap.**

- Repair the axial fan on the wall to provide air flow out of the structure during fumigation. To maintain clearance of fugitive emissions from the trailer, it is recommended that it provide approximately 10 air changes per hour. Do not tape front entrance door, the gap under the door will provide makeup air for the air being exhausted by the fan. Depending on the power of the fan, a louver may be necessary to provide sufficient makeup air (See Photo Four for an example). Testing air-flow directionality with smoke tube may be advised.
- The axial fan previously mentioned may also be used to provide aeration for the fumigation, providing it meets the minimum requirements found in the 1994 Reference Manual: Methyl Bromide Commodity Fumigation concerning exit velocity and stack heights (see in particular Definition N and Definition P). Appropriate ducting should be installed and stack should be of at least minimal height as recommended in Reference Manual.



**Photo Four: Louvered doors for makeup air**

- Close roof wind-turbines during fumigation/aeration. Also seal obsolete exhaust stack over restroom. Confirm that plumbing traps in restroom are filled with water or other liquid.
- Test facility perimeter (including opposite side of shear wall) with testing equipment capable of detecting concentration of methyl bromide to 1 ppm or less. This should be done for the first 3 applications, then periodically afterwards.
- When possible, coordinate with nearby businesses to conduct fumigations/aerations when no employees or clients are present (i.e. evenings and weekends).

All appropriate structural and procedural requirements as specified in the 1994 Reference Manual: Methyl Bromide Commodity Fumigation should be followed.

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